# DECISION DOCUMENT

# SOUTHERN BUSH RIVER CLUSTER 18 DISPOSAL AREA
# REMOVAL DECISION DOCUMENT

**SUBMITTED BY:**

**ENVIRONMENTAL CONSERVATION AND RESTORATION DIVISION**
**EDGEWOOD, MARYLAND 21010**

**FINAL**

**JUNE 2000**

## ABBREVIATIONS AND ACRONYMS

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|---|---|
| APG | Aberdeen Proving Ground |
| AR 200-1 | Army Regulation 200-1 |
| ARARs | Applicable or Relevant and Appropriate Requirements |
| CERCLA | Comprehensive Environmental Response, Compensation and Liability Act |
| DOD | Department of Defense |
| DSHE | Directorate of Safety, Health and the Environment |
| MDE | Maryland Department of the Environment |
| NCP | National Oil and Hazardous Substances Pollution Contingency Plan |
| RAB | Restoration Advisory Board |
| RBC | Risk Based Concentration |
| RCRA | Resource Conservation and Recovery Act |
| SARA | Superfund Amendments and Reauthorization Act |
| U.S. | United States |
| USEPA | United States Environmental Protection Agency |

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## 1. Purpose of Remedial Action

This decision document describes the selected action to remove glassware and potentially contaminated debris that is not associated with a specific site located behind the white phosphorus building, E2620 in the Southern Bush River, Aberdeen Proving Ground (APG), Maryland. This action is developed in accordance with CERCLA as amended by SARA, the NCP, RCRA and AR 200-1, as applicable.

The Bush River Study Area covers approximately 500 acres on a peninsula located in the northeast portion of the Edgewood Area. The southern two thirds of the study area is fenced and patrolled, requiring security clearance for access. The study area has been primarily used for storage of chemical agents and materials used in research, testing, and production operations conducted in the Edgewood Area. Currently, hazardous materials and wastes are accumulated and stored in preparation for disposal. In addition, mustard agent is stored in bulk "ton containers" in the secured area. The Generic Work Plan divides the study area into eight clusters numbered 3, 7, 11, 15, 18, 35, 36 and 55 (later incorporated into Cluster 36). The disposal pit area is located in cluster 18.

The disposal area was identified during geophysical surveys in support of the Focused Feasibility Study for Southern Bush River and had not been identified before that. The area was designated as sub area five and contains glassware, glass bottles and vials (some liquid-filled), syringes, plastic and miscellaneous debris.

To further delineate the suspected waste burial pits, geophysical surveys were done by Enviroscan, Inc. in October, 1998. A surface soil sample (SS-79) was taken and analyzed for volatile organic compounds, semivolatile organic compounds, pesticides, polychlorinated biphenyls, explosive-related compounds, total metals, total cyanide, gross alpha/beta, gamma spectral analysis, thiodiglycol, 1,4-dithiane, and 1,4-oxathiane. All of the parameters at this site were detected at concentrations below comparison criteria.

A Human Health Risk Assessment or Ecological Risk Assessment has not been completed for the area. Based on the unknown and potentially contaminated contents of the glassware, a removal action that is protective of human health is recommended. The removal will prevent the migration of potential contamination to groundwater and surface water/sediment and reduce the potential for human health to be adversely impacted.

This decision document was developed by the APG Garrison Directorate of Safety, Health, and the Environment, (DSHE) with support from the Maryland Department of the Environment (MDE) and the United States Environmental Protection Agency (USEPA). EPA and MDE concurred with the recommendation of a removal action at the site.

## 2. Summary of Site Risk

During the site investigation, a soil sample was done (SS-79), from which small quantities of pesticides (13 ug/kg of 4,4'-DDE), metals and radiologicals were detected. All of the detected compounds were below the RBC for soil, with the exception of arsenic (3.1 mg/kg detected compared to 0.43 mg/kg RBC.)

The Electromagnetic survey suggests that there is a greater concentration of metallic and/or ionic waste south of the glass and plastic material in the vicinity of the test pit. The dimensions of the pit are estimated to be approximately 20 feet by 40 feet. The depth of the possible pit could not be estimated due to uneven ground cover, which prevented good signal coupling.

## 3. Summary of Remedial Alternatives

The alternatives evaluated for the contaminated material in the pit not associated with any specific area include:

(1) No Action
(2) Capping the Area
(3) Removal of the contaminated soil in the approximate waste disposal area

Alternative 1, the No Action Alternative is not acceptable because it does not eliminate the potential ecological risks and potential for migration of contaminants from the waste disposal area, nor is it protective of human health. The cost for this option is $0.

Alternative 2, capping the area, would be protective of human health. Initial costs for the cap are estimated at $154,000. The cap must be maintained and monitored, increasing the initial cost significantly. In addition, a stream meanders through the disposal pit and a marshy wetland is immediately south of the area. A cap would significantly change the hydrology of the environment and could have adverse impacts on the surrounding ecology.

Alternative 3, the preferred alternative of digging and hauling the suspected waste pit area, will reduce ecological risks and is protective of human health. The digging will be done to minimize environmental impacts. After the excavation has been completed, confirmatory samples will be collected at several locations along the sides and the bottom of the excavation. Discrete confirmatory samples will be collected to analyze for volatile organic compounds, semivolatile organic compounds, pesticides,

polychlorinated biphenyls, explosive-related compounds, total metals and total cyanide. The estimated cost to complete this removal action is $85,000 and is a one time cost incurrence.

## 4. Public/Community Involvement

CERCLA/SARA [Sections 113 (K)(2)(A) and 117], DOD, and Army policy require the involvement of the local community as early as possible and throughout the entire Installation Restoration process. To accomplish this, APG is conducting monthly Restoration Advisory Board (RAB) Meetings and periodic Public Meetings at key decision points in the CERCLA remedial process (*U.S. Army Restoration Advisory Board and Technical Assistance for Public Participation Guidance, April 1998).* The RAB members are comprised of both Army and local community members. Each of the 13 Study areas is addressed biannually at the monthly RAB meetings. The removal action draft decision document was made available at the May 2000 RAB meeting and the proposed removal action will be formally briefed during the June 2000 RAB meeting.

## 5. Declaration

The selected remedy is protective of human health and the environment and attains Federal and state ARARs. The remedy satisfies the statutory preference for remedies that employ treatment that reduces toxicity, mobility or volume as a principal element and utilizes permanent solutions and alternative technologies to the maximum extent practicable.

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Robert J. Spidel (Date)
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